

REMARKS

The Examiner, Mr. Brier, and the Special Programs Examiner, Mr. Weider, are thanked for the courtesy extended applicants' attorney during the telephone discussions concerning this application. In particular, in accordance with Mr. Weider's suggestion, in the amendment in the accompanying RCE, claims 1 - 22 of the issued patent which were inadvertently canceled and for which the present application is a reissue, have been reinstated by the presentation of new claims 48 - 69 corresponding respectively to claims 1 - 22 of the patent with different numbering. Since these claims are merely a reinstatement of the issued patent claims which were inadvertently canceled, although these claims bear the designation (new), these claims do not appear in underlining form, as required for amendment in a reissue application. It is noted that Mr. Weider indicated that upon allowance, claims 48 - 69 would be renumbered corresponding to patent claims 1 - 22 in accordance with the dependency of patent claims 1 - 22 and would not appear in italicized form.

Also, by the present amendment, claim 46 has been canceled without prejudice or disclaimer of the subject matter thereof and claim 24 has been amended in a manner similar to that suggested by the Examiner so as to conform to the arguments previously submitted and now recites "wherein said at least one driver circuit is made of a separate member from said pair of substrates". (emphasis added).

Turning to the points raised by the Examiner in the office action mailed April 13, 2004, applicants consider it appropriate to respond in the order of the points

raised and will refer to such points by referring to the appropriate numbered paragraph of such office action.

With respect to the points raised in paragraphs 2 - 5 at page 2 of the office action, as recognized by the Examiner, the various points raised by the Examiner with respect thereto have been overcome.

As to paragraph 6 at page 3 of the office action, submitted herewith is a copy of the "Reissue Application by the Assignee, Offer to Surrender Patent" filed with the reissue application on August 24, 2000. Furthermore, applicants direct the Examiner's attention to the change in 37 CFR 1.178 which now provides in part (a) "the application for reissue of a patent shall constitute an offer to surrender that patent, and the surrender shall take effect upon reissue of the patent." Thus, this point raised by the Examiner should now be overcome noting that it is no longer necessary to physically surrender the original Letters Patent.

As to paragraph 7 at page 3 of the office action, by the present amendment, claim 46 has been canceled such that the rejections with respect thereto should now be overcome.

As to the points raised in paragraph 8 at page 3 of the office action concerning the rejection of claim 24 under 35 USC 251 and 35 USC 112, first paragraph, the Examiner indicates that the argued limitation is not recited in the rejected claim in that the claim limitation "separate from" is much broader than the argued limitation "separate member from". The Examiner indicates that applicant needs to amend claim 24 to overcome the rejection, and in accordance with the Examiner's suggestion, as indicated above, claim 24 has been amended to recite the feature of "said at least one driver circuit is made of a separate member from said

pair of substrates" (emphasis added) such that applicants submit that by the present amendment, the rejection of claim 24 should now be overcome.

With regard to paragraph 9 at pages 3-5 of the Office Action concerning the rejection of the claims under 35 USC 251 based on the principle of recapture, applicants submit that the Examiner has mischaracterized applicants arguments and the decision of Ex parte Eggert, 67 USPQ 2nd 1760 (Bd. Pat. App. and Int. 2003). That is, 35 USC 251 permits a broadening reissue if filed within two years of the issue date of the patent, it being noted that the reissue application was filed on August 24, 2000 which is within two years of the August 25, 1998 issue date of US Patent No. 5,798,744, for which reissue is requested herein. Moreover, the doctrine of recapture as explained in Ex parte Eggert, supra, relates to the ability to obtain an intermediate scope of the claimed coverage between that of the original claims for patent which were not issued as patent claims and that obtained as patent claims. Accordingly, the Examiner's reference and analysis to differences between the present claims of this reissue application and those of claims 1 - 22 of the issued patent is misplaced and applicants submit that in accordance with the aforementioned decision, applicants are entitled to a scope of claimed coverage between the non-issued original claims of the patent application and the claims of the patent application which issued as US Patent No. 5,798,744. Applicants submit that the independent claims 23, 32, 38 and 42 recite features as have been previously explained which differ from the rejected claims of the original patent application and the claims of the issued patent and have support in the original application disclosure such that the issue of recapture does not apply to claims 23 - 45 and 47 as now presented in this reissue application. Accordingly, applicants

request reconsideration and withdrawal of the rejection based on the principle of "recapture".

As to the points raised by the Examiner in paragraphs 10 and 11 at pages 5 and 6 of the office action, such points will be discussed below. With respect to paragraph 12 at pages 6 and 7 of the office action, as noted above, 37 CFR 1.178 has been changed effective September 14, 2004 and applicants have complied with the requirement.

As to paragraph 13 at pages 7 and 8 of the office action and the rejection of claims 24 and 46 under 35 USC 251 as being based upon new matter, as noted above, claim 46 has been canceled thereby obviating this rejection and claim 24 has been amended to recite the feature of a separate member from the pair of substrates and as recognized by the Examiner, such features are clearly described in the specification such that the rejection with respect thereto should now be overcome.

As to paragraph 15 at page 8 of the office action and the rejection of claims 24 and 46 under 35 USC 112, first paragraph, hereagain, the cancellation of claim 46 has obviated the rejection with respect thereto and applicants submit that the amendment of claim 24 to recite a separate member conforms to the description in the specification such that the rejection with respect to 35 USC 112, first paragraph, should now be overcome.

As to paragraph 16 and the rejection of claims 23 - 47 under 35 USC 251 as being an improper recapture of broadened claimed subject matter surrendered in the application for the patent upon which the patent reissue is based, this rejection is traversed and reconsideration and withdrawal thereof are respectfully requested.

As noted above, in setting forth the rejection under 35 USC 251, the Examiner does not give proper consideration to the requirements of Ex parte Eggert, supra and has misinterpreted the requirements in referring to the patent claims in relation to the broadened reissue claims rather than the claims of the original application for patent which did not issue as patent claims. Accordingly, applicants submit that it is apparent that the Examiner's analysis is based upon a misinterpretation of the requirements for reissue, and applicants submit that claims 23 - 35 and 47, as now presented in this application recite features not present in the original claims which did not issue, such that applicants submit that the requirements for reissue have been met with respect to the present claims in this application and this rejection should now be overcome.

****** Before discussing the rejection based upon prior art, applicants note that a characteristic of the present invention resides in that an active matrix display part is driven by a peripheral circuit including TFTs and the peripheral circuit is driven by a driver LSI in the form of at least one driver circuit. Such construction has the following effects.

(1) The size and the power consumption can be decreased with the combination of an IC driver (LSI) and a peripheral circuit rather than the integration of the whole driver circuit. The following passages of the patent specification shows the fact described above.

The manufacturing rule of the driver pattern can be at most 1 μm , preferably at most 0.5 μm by setting a dynamic range of the liquid crystal driving source voltage of the image signal driver at most at 5 V, preferably at most at 3 V. Accordingly, the area of a chip can be reduced remarkably. The manufacturing size of the driver is smaller than the manufacturing size of the TFT by one order. In accordance with the above manufacturing requirement, the chip can be reduced farther in size and in consuming power than a case when all of the

driving functions are integrated on the substrate. Further, the outer size of the liquid crystal display apparatus can be reduced remarkably. The area of the chip can be reduced to at most 0.1mm. sup. 2 per pin output. An output greater than 200 or 300 pins per driver becomes possible. The liquid crystal display apparatus can be driven by one or two drivers and the peripheral circuits. A display information generating circuit and memory circuits for generating display information can be included in a driver. The display information generating circuit and the memory circuits for generating display information can be integrally formed by the same process as for the liquid crystal driving voltage generating circuit. (Column 4, Lines 31 - 47)

These effects are unique and are obtained by the combination of the driver and the peripheral circuit irrespective of where the driver chip is arranged.

(2) Further, the number of the driver LSI is decreased up to one fourth or less.

The following passages of the patent specification shows the fact described above.

FIG. 4 is an equivalent circuit of the peripheral circuit and a display region having vertical 240. times. lateral 320 pixels (240. times. 320. times. 3 colors dots). Both the image signal side peripheral circuit 51 and the scanning signal side peripheral circuit 52 are of the switch matrix type. Taking the image signal side circuit for example, the image signal from the driver and Vdd1 -Vdd240 are branched by the TFT so as to be supplied to the image signal lines and the scanning signal lines. Branching of the signal is controlled by a switching operation of the TFT involving sampling of clock pulses from CL1 to CL4. The scanning signal side circuit is composed in the same manner as the scanning signal from the driver, and Vgd1 -Vgd 24, are branched to 240 scanning signal lines from Vg1 to Vg240 by 10 clock pulses. The 240 image signal lines are driven by 240 image signal terminals, and 960 image signal lines and the 240 scanning signal lines are driven by 24 scanning signal terminals. That means, the number of the driver IC and connection can be reduced to an amount equal to or less than 1/4. (Column 6, Lines 39-57)

This effect can be also obtained independently of the location where the driver chip is arranged.

As described above, the inventors originally disclose the decrease of the size of a panel and the power consumption, and the decrease of the number of driver

LSIs to 1/4 or less, as new effects obtained by driving a peripheral driver circuit with an 1C driver in the form of at least one drive circuit. These effects can be obtained by driving of a peripheral circuit as claimed, by using the at least one driver circuit irrespective of the location of the at least one driver circuit on a substrate.

As to the rejection as set forth in paragraph 18 at pages 17 - 21 of the office action of claims 23 - 27, 32 - 34, 38, 39, 42, 43, 46 and 47 under 35 USC 102(a) as being anticipated by Mochizuki et al US Patent No. 5,247,375, this rejection is traversed insofar as it is applicable to the present claims and reconsideration and withdrawal of the rejection are respectfully requested.

As to the requirements to support a rejection under 35 USC 102, reference is made to the decision of In re Robertson, 49 USPQ 2d 1949 (Fed. Cir. 1999), wherein the court pointed out that anticipation under 35 U.S.C. §102 requires that each and every element as set forth in the claim is found, either expressly or inherently described in a single prior art reference. As noted by the court, if the prior art reference does not expressly set forth a particular element of the claim, that reference still may anticipate if the element is "inherent" in its disclosure. To establish inherency, the extrinsic evidence "must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill." Moreover, the court pointed out that inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.

In setting forth the rejection based upon Mochizuki et al, the Examiner at page 18 of the office action states:

Inherently Mochizuki teaches a driving circuit on a substrate external to the display substrate for providing signals to the data drive circuit area 19A and scanned drive circuit 19B. (emphasis added)

This position by the Examiner is not understood. Fig. 1A of Mochizuki et al shows a pixel zone 11, a data-line drive circuit 13 and a scanning-line drive circuit arranged at the periphery of the pixel zone 11, all of which are disposed on a glass substrate 10 which would correspond to the substrate 10A in Fig. 1B of this patent and which structure and substrate 10A is overlaid with an upper substrate 10B which is shown in broken away form in Fig. 1B. It is apparent that the scan drive circuit 19B in Fig. 1B and also the data drive circuit area 19A and the signal line drive circuit 13 in Fig. 1B of Mochizuki et al include at least one drive circuit which is electrically connected to the at least one peripheral circuit for driving said at least one of said driving peripheral circuit and is arranged to be held between the pair of substrates 10A and 10B. There is no disclosure in Mochizuki et al of other external drive circuits, irrespective of the Examiner's contention, being arranged outside of a region which is held between the pair of substrates and applications at signals to such drive circuits do not represent "at least one driver circuit" connected and operating as defined. Applicants submit that as noted in the decision of In re Robertson, supra, to establish inherency, the extrinsic evidence must make clear that the missing descriptive matter is necessarily present in the thing described in the reference and that it would be so recognized by persons of ordinary skill and that inherency however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient. Thus, applicants submit that the Examiner's position under 35 USC 102 is improper and claim 23 and the

dependent claims patentably distinguish over Mochizuki et al and should be considered allowable thereover.

With respect to claim 32, the Examiner contends that "the claims which matrix is broadly claimed and is met by drive circuit 13 illustrated in Fig. 1B as a switch matrix". Applicants submit that irrespective of the Examiner's position, in accordance with the disclosure of Mochizuki et al at column 5, lines 1 - 13, "the signal line drive circuit 13 comprises sampling transistors, a split matrix and horizontal shift registers". It is not seen that such represents an image signal peripheral circuit which comprises a switch matrix circuit connected to said display region on one substrate of said pair of substrates, and at least one driver circuit electrically connected to said image signal peripheral circuit. Thus, applicants again submit that Mochizuki fails to disclose the claimed subject matter of claim 32 and the dependent claims in the sense of 35 USC 102 and should be considered allowable thereover.

With regard to claim 38, the Examiner contends "this claim is broader than claim 23 and is rejected for the reasons given for claim 23. The claimed switch matrix is broadly claimed and is met by drive circuit 13 illustrated in Fig. 1B as a switch matrix. The display information generating circuit is inherent." Contrary to this position by the Examiner, applicants note that as pointed out above with respect to claim 32, Mochizuki et al does not disclose in the sense of 35 USC 102 at least one image signal peripheral circuit having a switch matrix circuit connected to said display region and at least one driver circuit, including at least one display information generating circuit, electrically connected to said at least one image signal peripheral circuit. Thus, applicants submit that claim 38 and its dependent claims

also patentably distinguish over Mochizuki et al in the sense of 35 USC 102 and should be considered allowable thereover.

With respect to claim 42, the Examiner contends that "this claim is broader than claim 23 and is rejected for the reasons given for claim 23. The claimed switch matrix is broadly claimed and is met by drive circuit 13 illustrated in Fig. 1B as a switch matrix. Generating clock pulses and image signals is inherent". Irrespective of this position by the Examiner, applicants note that as pointed out above with respect to claim 32, Mochizuki et al does not disclose in the sense of 35 USC 102 an image signal peripheral circuit having a switch matrix circuit connected to said display region, wherein only one driver circuit is electrically connected to said image signal peripheral circuit for generating clock pulses and image signals. Thus, the driver circuit is different from the image signal peripheral circuit having the switch matrix, and such features are not disclosed by Mochizuki et al in the sense of 35 USC 102. Thus, applicants submit that claim 42 and the dependent claims patentably distinguish over Mochizuki et al in the sense of 35 USC 102 and should be considered allowable thereover.

For the foregoing reasons, applicants submit that the independent and dependent claims of this application patentably distinguish over Mochizuki et al in the sense of 35 USC 102, it being noted that the Examiner has not rejected claim 28, claims 35 - 37, claims 44 and 45, as being anticipated by Mochizuki et al such that at least these claims should be considered allowable thereover and the other claims patentably distinguish for the reasons given above.

With respect to the rejection set forth in paragraph 19 at pages 22 - 24 of the office action, that claims 23, 24, 26, 32, 33, 38, 42, 46 and 47 are rejected under 35

USC 102(b) as being anticipated by Misawa et al (US Patent No. 5,250,931) this rejection is traversed and reconsideration and withdrawal of the rejection are respectfully requested.

Applicants note that since claims 25, 27 - 31, 34, 37, 39 - 41, 43 - 45 have not been rejected under 35 USC 102(b) as being anticipated by Misawa et al, it is apparent that at least these claims should be considered allowable over this cited art.

Turning to the Examiner's basis for the rejection of claim 23, the Examiner states in the last paragraph at page 22:

Inherently Misawa teaches a driving circuit for driving the source line driver 12 and gate line driver 21, see Fig. 1, which illustrates where the driving source connects the source line driver and gate line driver at input terminals 34, 35, 36, 37 and 38. Column 5, lines 5 - 13.
(emphasis added)

This position by the Examiner is not understood. Apparently the Examiner contends that the source line driver 12 is not a driving circuit but rather a peripheral circuit and similarly the gate line driver 21 does not represent a driving circuit, but rather a peripheral circuit as claimed. Applicants submit that such description is contrary to the disclosure of Misawa et al. Furthermore, with respect to the driver circuit 12 receiving input signals at input terminals 34 and 35, applicants submit that such input signals represent a clock signal CLX and a start signal DX and there is no disclosure or teaching at least one driver circuit which is electrically connected to the at least one peripheral circuit for driving the at least one peripheral circuit and being arranged outside of a region which is held between the pair of substrates. Likewise, the input terminals 36 are supplied with video signals V₁, V₂ and V₃ of the source line driver circuit 12 whereas a clock signal CLY and a start signal DY are input into a

pair of input terminals 37 and 38 of the gate line driver circuit 21 as described in column 5, lines 5 - 13 of Misawa et al. Again, applicants submit there is no disclosure of at least one driver circuit arranged in a manner defined and operating in the manner defined with the signals being applied to the driver circuit not representing at least one driver circuit as this terminology is utilized in Misawa and in the specification and claims of this application. Thus, applicants submit that claim 23 and the dependent claims patentably distinguish over Misawa et al in the sense of 35 USC 102 and such claims should be considered allowable thereover.

As to claim 32, apparently the Examiner takes a different position than that taken with respect to claim 23 in that the Examiner contends that "the claims which matrix is broadly claimed and is met by the switches 17 - 19 of source line driver 12 illustrated in Fig. 1 as a switch matrix". Applicants submit that the switches 17 - 19 are not disclosed as a switch matrix with the Examiner apparently now contending that the driver 12 is now at least one driver circuit as opposed to a driver circuit being connected to the input terminals 34 and 35. Applicants note that Misawa et al describes in column 4, lines 45 - 55 that the source line driver circuit 12 includes a shift register 13 and a plurality of sample and hold circuits 17, 18 and 19 formed of thin film transistors and a plurality of video signal buses 14, 15 and 16. Applicants submit that this disclosure of Misawa et al is contrary to the position taken by the Examiner and applicants submit that claim 32 and its dependent claims patentably distinguish over Misawa et al in the sense of 325 USC 102 and should be considered allowable thereover.

As to claim 38, the Examiner contends that "the claims which matrix is broadly claims and is met by source line driver 12 illustrated in Fig. 1 as a switch matrix the

display information generating circuit is inherent to produce video signals V1, V2, V3, column 5, line 9". Hereagain, applicants submit that this position by the Examiner does not correspond to the disclosure of Misawa et al and is contrary to the claimed features of claim 38 which requires an image signal peripheral circuit having a switch matrix circuit connected to the display region, and at least one driver circuit, including at least one display information generating circuit, electrically connected to the at least one peripheral circuit. It is apparent that Misawa et al does not disclose the claimed feature as recited claim 38 and the dependent claims, such that these claims should also be considered allowable at this time. As to claim 42, the Examiner contends that "the claims which matrix is broadly claimed is met by source line driver 12 illustrated in Fig. 1 as a switch matrix. Misawa's driver circuit produces clock pulses, taught at column 5, line 7 and image signals, taught at column 5, line 9." Applicants submit that contrary to the position set forth by the Examiner, Misawa et al does not disclose an image signal peripheral circuit having a switch matrix circuit connected to the display region wherein only one driver circuit is electrically connected to said image signal peripheral circuit for generating clock pulses and image signals. Applicants submit that there is no disclosure in Misawa et al of such claimed features nor can it be considered inherent, irrespective of the position set forth by the Examiner. Thus, applicants submit that claim 42 and its dependent claims also patentably distinguish over Misawa et al in the sense of 35 USC 102 and should be considered allowable thereof.

In view of the above amendments and remarks, applicants submit that all claims present in this application should be considered to be in compliance with 35

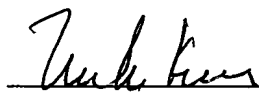
USC 251 and 35 USC 112 as well as to patentably distinguish over the cited art.

Accordingly, issuance of an action of a favorable nature is courteously solicited.

To the extent necessary, applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in the fees due in connection with the filing of this paper, including extension of time fees, to the deposit account of Antonelli, Terry, Stout & Kraus, LLP, Deposit Account No. 01-2135 (Case: 503.33904RC1), and please credit any excess fees to such deposit account.

Respectfully submitted,

ANTONELLI, TERRY, STOUT & KRAUS, LLP

A handwritten signature in dark ink, appearing to read "Melvin Kraus", is written over a horizontal line.

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